We claim:

1. A method of mapping a dynamic synchronous transfer mode (DTM) frame onto an optical network frame, comprising:

(a) providing a dynamic transfer mode ring topology comprising a first node, a second node, a third node and a fourth node, a first segment of the dynamic transfer mode ring topology extending from the fourth node to the first node, a second segment of the dynamic transfer mode ring topology extending from the second node to the third node so that the second segment is being disjointed from the first segment, the dynamic transfer mode ring topology carrying a plurality of (n)-bits of DTM slots each having (n-1) data bits and (1) control bit, an optical network in communication with the dynamic transfer mode ring topology, the optical network having an (m)-bit frame format, (n-1) and (m) being integers so that (n-1) is an integral multiple of (m) and (n) is a non-integral multiple of (m);

(b) grouping the data bits into (m)-bit data groups;

(c) grouping the control bits into (m)-bit control groups, the data bytes being separate from the control bytes;

(d) forming a DTM set of the data groups and the control groups;

(e) mapping the DTM set onto an optical network frame on the optical network; and

(f) simultaneously transmitting information in a first data slot over the first and second disjointed segments of the dynamic transfer mode ring topology.

2. The method according to claim 1 wherein step (a) further comprises providing 65-bit DTM slots each having 64 data bits and 1 control bit and step (b) further comprises grouping the data bits into 8-bit data bytes and step (c) further comprises grouping the control bits into 8-bit control bytes.

3. The method according to claim 2 wherein the method further comprises associating a first control bit of the control bytes with a first DTM data bit of the 8-bit data bytes.

4. The method according to claim 1 wherein step (d) further comprises providing the DTM set with a bit configuration that is an integral multiple of an (m)-bit frame format of the optical network.

5. The method according to claim 1 wherein the method further comprises providing the optical network with a payload capacity that is an integral multiple of a total size of the DTM set.

6. A method of mapping a dynamic synchronous transfer mode (DTM) frame onto an optical network frame, comprising:

(a) providing a DTM topology having a first node, a second node, a third node and a fourth node, a first segment in the first dynamic transfer mode ring topology extending from the first node to the second node, the DTM topology carrying a plurality of 65-bit DTM slots each having 64 data bits and 1 control bit;

(b) grouping the data bits into 8-bit data bytes;

(c) grouping the control bits into 8-bit control bytes, the data bytes being separate from the control bytes;

(d) forming a DTM set of the groupings of data bytes and the control bytes;

(e) connecting the DTM topology to a synchronous optical network having a 8-bit frame format;

(f) mapping the DTM set onto the 8-bit frame format of the synchronous optical network; and

(g) transmitting the DTM set in the optical network frame without drifting the DTM set in the 8-bit frame format of the synchronous optical network.

7. The method according to claim 6 wherein the method further comprises associating each control bit of the control bytes with a group of data bytes so that a first control bit is associated with a first group of 64 data bits and a second control bit is associated with a second group of 64 data bits.

8. The method according to claim 6 wherein the method further comprises providing the DTM set with 128 bytes of data bits and 2 bytes of control bites and grouping the 128 bytes of data bits together into DTM slots each having 64 bits of data bits.

9. The method according to claim 1 wherein the method further comprises providing the optical network with a payload frame capacity that is an integral multiple of a total bit size of the DTM set.